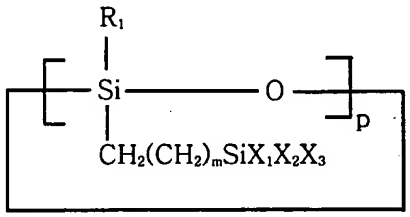
AMENDMENTS TO THE CLAIMS

1. (Original) A siloxane-based resin prepared by hydrolyzing and polycondensing a first monomer of the Formula 1 and a second monomer of the Formula 2 in an organic solvent in the presence of an acid or alkaline catalyst and water:

Formula 1



wherein,

R_1 is a hydrogen atom, a C_{1-3} alkyl group or a C_{6-15} aryl group;

each of X_1, X_2 and X_3, independently, is a C_{1-3} alkyl group, a C_{1-10} alkoxy group or a halogen atom, provided that at least one of them is hydrolysable;

m is an integer from 0 to 10; and

p is an integer from 3 to 8, and

Formula 2

$$(R_2)_{4-a}Ge(X_4)_a$$

wherein,

R_2 is a hydrogen atom, a C_{1-3} alkyl group, or a C_{6-15} aryl group;

X_4 is a C_{1-10} alkoxy group, or a halogen atom; and

a is an integer of 1-4.

2. (Original) The siloxane-based resin according to claim 1, wherein the molar ratio of the first monomer of Formula 1 to the second monomer of Formula 2 is 1:99-99:1.

3. (Original) The siloxane-based resin according to claim 1, wherein the Mw of the resin is 3,000-300,000.

4. (Original) A method of forming an insulating film between interconnecting layers of a semiconductor device, the method comprising the steps of:

providing a liquid coating composition by dissolving the

siloxane-based resin according to claim 1 in an organic solvent;

coating a silicon wafer with the liquid coating composition to form a coating film thereon; and

heat-curing the coating film.

5. (Original) The method according to claim 4, wherein the siloxane-based resin is mixed with a porogen so that the weight ratio of the resin to the porogen is 99:1-30:70.

6. (Original) The method according to claim 5, wherein the porogen is cyclodextrin, polycaprolactone, or derivatives thereof.

7. (Original) The method according to claim 4, wherein the weight ratio of solid component containing the siloxane-based resin and the porogen is 5-70 wt% based on the total composition.

8. (Original) The method according to claim 4, wherein the heat-curing is performed at 150-600°C for 1-150 minutes.

9. (Original) An interlayer insulating film for a semiconductor device comprising the siloxane-based resin of claim 1.

10. (Original) The interlayer insulating film according to claim 9, wherein micropores are formed throughout the film by the use of a porogen.

11. (Original) A semiconductor device containing an interlayer insulating film comprising the siloxane-based resin of claim 1.

12. (Original) The siloxane-based resin of claim 1, having a dielectric constant of 3 or less.

13. (Original) The method of claim 4, wherein the insulating film has a dielectric constant of 3.0 or less.

14. (Original) The interlayer insulating film of claim 9, having a dielectric constant of 3.0 or less.

15. (New) The siloxane-based resin according to claim 1, wherein the organic solvent is selected from the group consisting of hexane, anisole, mesitylene, xylene, methyl isobutyl ketone, 1-methyl-2-pyrrolidinone, acetone, cyclohexanone, tetrahydrofuran, isopropyl ether, ethyl acetate, butyl acetate, propylene glycol methyl ether acetate, isopropyl alcohol, butyl alcohol, dimethylacetamide, dimethylformamide, silicon-based solvents and mixtures thereof.

16. (New) The siloxane-based resin according to claim 1, wherein the catalyst is selected from the group consisting of hydrochloric acid, nitric acid, benzene sulfonic acid, oxalic acid, formic acid, potassium hydroxide, sodium hydroxide, triethylamine, sodium bicarbonate and pyridine.

17. (New) The siloxane-based resin according to claim 1, wherein the siloxane based resin is combined with a porogen selected from the group consisting of cyclodextrine, polycaprolactone and mixtures thereof.